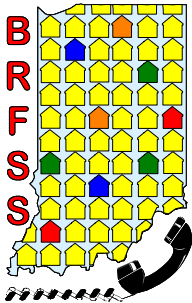


Volume 6, Issue 2

July 2008

# Indiana BRFSS Newsletter



*Indiana State Department of Health  
Public Health System Development and Data Commission  
Data Analysis*

## **Diabetes in Indiana Adults Results from the 2007 BRFSS**

Diabetes mellitus is a group of diseases characterized by high levels of blood glucose resulting from defects in insulin production, insulin action, or both. Diabetes can be associated with serious complications and premature death, but people with diabetes can take steps to control the disease and lower their risk of complications [National Center for Chronic Disease Prevention and Health Promotion].

Many health conditions and behaviors are not reportable; hence, prevalence data must be obtained from another source. The Behavioral Risk Factor Surveillance System (BRFSS) is an annual random digit-dial telephone survey of adults aged 18 years and older. The survey is conducted through a cooperative agreement with the Centers for Disease Control and Prevention (CDC). All 50 states and the District of Columbia participate. The BRFSS relies on self-reported data. This type of survey has certain limitations that should be understood when interpreting the data. Many times, respondents have the tendency to underreport behaviors that may be considered socially unacceptable (e.g., smoking, heavy alcohol use). Conversely, respondents may over report behaviors that are desirable (e.g., nutrition, exercise).

The information on diabetes was obtained from the 2007 BRFSS survey. Respondents were asked if they had ever been told by a doctor that they had diabetes (the question did not differentiate between Type 1 and Type 2 diabetes). Respondents with diabetes were also asked questions from the diabetes module, including diabetes management (e.g., checking blood for glucose) and age at diagnosis.

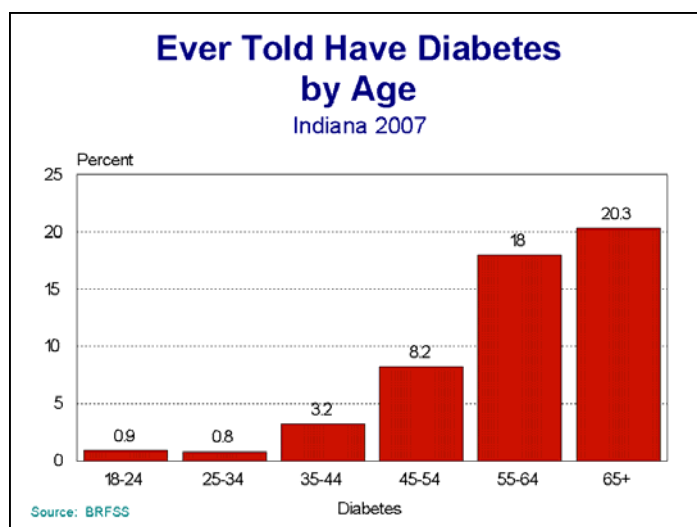


In describing racial differences in this article, “white” refers to white, non-Hispanic respondents, and “black” refers to black, non-Hispanic respondents. The differences reported below are statistically significant ( $p < 0.05$ ) unless otherwise noted.

---

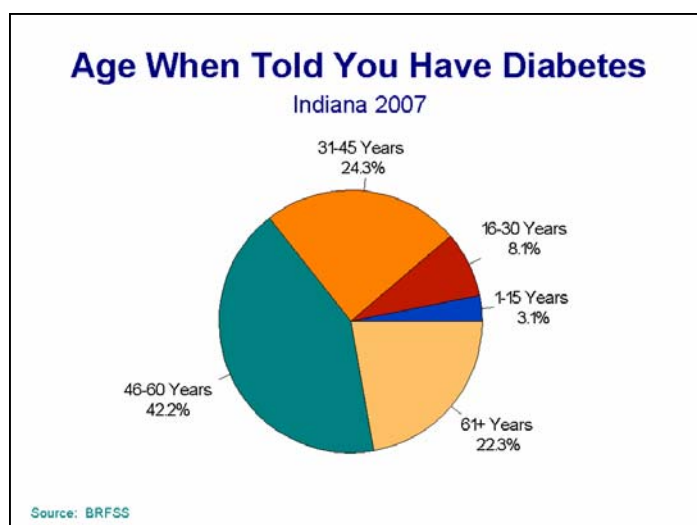
Overall, 8.5% of Indiana's adults (400,000) reported having been told they have diabetes. This prevalence is a significant increase from 2001, when 6.5% of adults reported diabetes. The prevalence for males and females was similar (8.8% vs. 8.1%, respectively), while black respondents were more likely than white or Hispanic respondents to report diabetes (14.3% vs. 8.3% and 5.4%, respectively). The difference between white and Hispanic prevalence was not significant. The prevalence of diabetes increased with age, with adults aged 55 years and older significantly more likely to report the condition [see Figure 1]. Similar differences were found in household income, as adults with household incomes less than \$25,000 were more likely to have been told they have diabetes than those with household incomes greater than \$25,000.

**Figure 1**



The majority of adults were 46 years of age or older when they were diagnosed with diabetes [see Figure 2]. For respondents aged 61 years and older, females were more likely than males to report having been diagnosed with diabetes (27.6% vs. 17.3%, respectively). Almost one third of adults with diabetes reported taking insulin (29.5%), and 72.6% reported taking diabetes pills.

**Figure 2**



## Prevention of Diabetes Complications

Diabetes can affect many parts of the body and can lead to serious complications such as blindness, kidney damage, and lower-limb amputations [National Diabetes Fact Sheet, CDC]. The Preventative Care for People with Diabetes guidelines from the Diabetes Prevention and Control Program at the Indiana State Department of Health recommends a number of actions for proper management of the condition.

One recommendation is to check glucose daily. In 2007, 63.2% of adults with diabetes reported checking their blood for glucose at least once each day, 27.2% reported checking less than once per day, and 9.6% reported never checking for glucose. There were no differences between males and females.

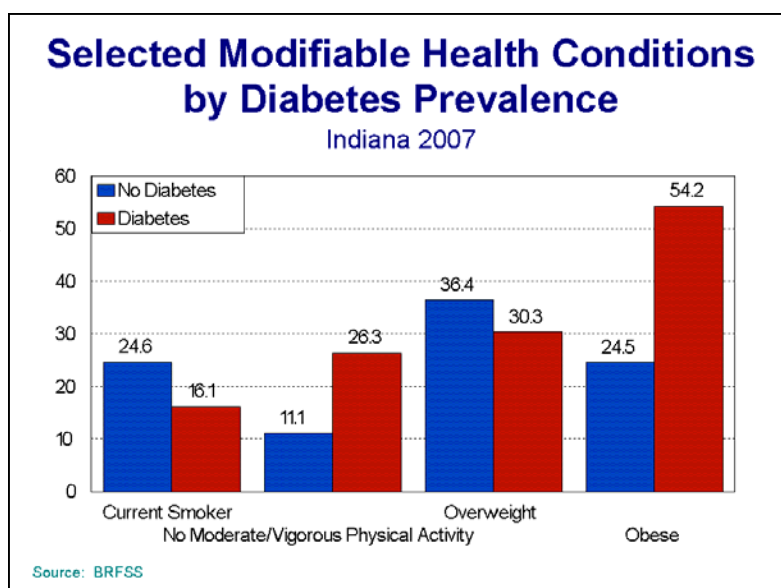
Another recommendation is for persons with diabetes to see a doctor or nurse at least once each year to help manage their diabetes. Approximately 88% (87.4%) reported seeing a doctor or nurse in the past year for their diabetes. There were no differences between males and females.

An A1C test measures the average level of blood sugar over the past three months; it is recommended that people with diabetes have the test at least twice each year. Overall, 44.1% of adults reported having 1-2 tests per year, 33.8% reported 3-4 tests per year, and 6.8% reported 5 or more tests. Nine percent reported no test, with whites more likely than blacks to report no test (10.1% vs. 2.8%, respectively). Approximately 6 percent (6.3%) of respondents reported they had never heard of the A1C test.

It is recommended that a health care professional check the feet of people with diabetes for any sores or irritations once each year. Approximately 71% of respondents reported having at least one foot exam by a health care professional in the past year, while 28.8% reported having no foot exam. Males were more likely than females to report sores or irritations on their feet that took more than four weeks to heal (14.2% vs. 5.9%, respectively).

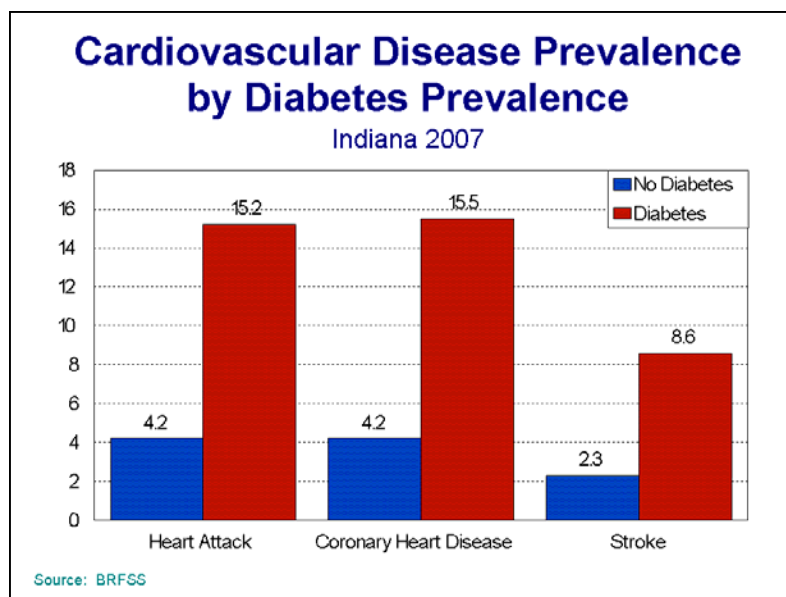
**Figure 3**

Sixty-four percent of adults with diabetes reported they had attended a course or class on how to manage their diabetes. People with diabetes are encouraged to quit smoking, exercise, and lower their body mass index. While adults with diabetes were less likely to smoke, they were also less likely to engage in moderate or vigorous physical activity and more likely to be obese than those without diabetes (see Figure 3).



Cardiovascular disease is the leading cause of early death among people with diabetes, and adults with diabetes are two to four times more likely to have heart disease or experience a stroke than those without diabetes [National Center for Chronic Disease Prevention and Health Promotion, CDC]. In Indiana, adults with diabetes were more likely to report having had a heart attack, angina/coronary heart disease, and stroke than those without diabetes (see Figure 4).

Figure 4



Blood pressure and cholesterol control can reduce cardiovascular disease [National Diabetes Fact Sheet, CDC]. Most of the adults with diabetes (91.7%) reported having their cholesterol checked in the past year. Almost two thirds of adults with diabetes (62.3%) reported having been told that their cholesterol was high. Two thirds of adults with diabetes (66.5%) reported high blood pressure, and 92.8% of those with high blood pressure reported that they were currently taking blood pressure medication.

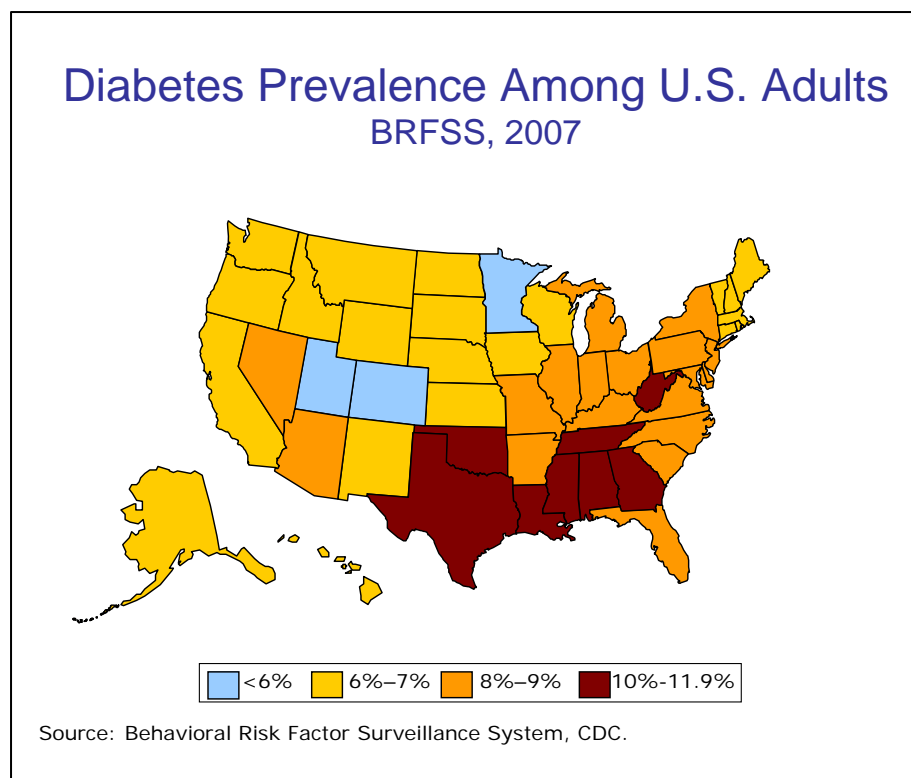
While diabetes is a serious condition, it can be managed through lifestyle changes and medication to help lower the risk of complications. Lifestyle changes can also prevent or delay the onset of type 2 diabetes among high-risk adults [National Diabetes Fact Sheet, CDC]. For additional information on diabetes, please visit the ISDH Diabetes Program Web site at <http://www.in.gov/isdh/19701.htm>.

## National Data

The percentage of adults reporting diabetes has increased from 4.8% in 1997 to 8.0% in 2007. In 2007, the adult diabetes prevalence ranged from 5.3% (Colorado) to 11.9% (Tennessee) (see Figure 5). States with the highest diabetes prevalence were more likely to have a higher percent of adults considered obese than states with the lowest diabetes prevalence.

Prevalence increased with age, with one percent of adults aged 18-24 reporting diabetes compared to 18.3% of adults aged 65 years and older (2007). There was no difference between males and females. Prevalence decreased with higher income and education. Black respondents were more likely to report diabetes than white or Hispanic respondents (12.6% vs. 7.6% and 7.1%, respectively).

**Figure 5**

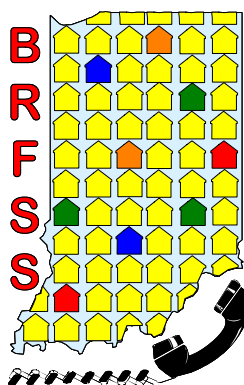


Nearly 24 million adults have diabetes; an increase of more than 3 million from 2005 to 2007. Another 57 million are estimated to have pre-diabetes, a condition that puts people at increased risk for diabetes [2008 Diabetes Fact Sheet Press Release from CDC].

---



Public Health System Development  
and Data Commission  
Data Analysis  
2 North Meridian Street, 3-D  
Indianapolis, IN 46204  
Phone: 317.233.7416  
Fax: 317.233.7378  
E-mail: data-analysis@isdh.IN.gov



The Indiana BRFSS  
Newsletter is published by  
the Indiana State  
Department of Health to  
provide surveillance  
information to Indiana  
health professionals and  
to the public health  
community.

### FIND US ON THE WEB AT:

<http://www.in.gov/isdh/22860.htm>

#### *State Health Commissioner*

Judith A. Monroe, MD

#### *Deputy State Health Commissioner*

Mary L. Hill, RN, Esq.

#### *Assistant Commissioner*

Joe D. Hunt, MPH

#### *Data Provider*

Centers for Disease Control and Prevention

#### *Editor*

Linda Sternnock, BSPH

#### *Director, Data Analysis Team*

Jon E. Lewis, PhD

#### *Design/Layout*

Kristy Holzhausen

#### *Surveys*

Clearwater Research, Inc.

### **Acknowledgments**

The Public Health System Development and Data Commission gratefully acknowledges the efforts of the residents of the State of Indiana who took the time to respond to the questions asked in the telephone interviews conducted for this survey.

A special acknowledgment is also extended to the staff of Clearwater Research, Inc., who committed themselves to collecting the BRFSS data in an accurate and professional manner.

The Indiana BRFSS is completed through a cooperative agreement between the Centers for Disease Control and Prevention and the Indiana State Department of Health.

This publication was supported by cooperative agreement number U58/CCU522814-05 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

